

We claim:

1. A process for improving the storage stability of an aqueous dispersion of particles composed of addition polymer and finely divided inorganic solid (composite particles), wherein before, during or after the preparation of the composite particles in dispersion in the aqueous medium (aqueous composite-particle dispersion) a hydroxyl-containing alkylamino compound is added to the aqueous dispersion medium.
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- 10 2. The process according to claim 1, wherein the hydroxyl-containing alkylamino compound is added to the aqueous dispersion medium of the aqueous composite-particle dispersion after its preparation.
- 15 3. The process according to one of claims 1 and 2, wherein the aqueous composite-particle dispersion containing a hydroxyl-containing alkylamino compound has a pH ≥ 7 and ≤ 11 .
- 20 4. The process according to one of claims 1 to 3, wherein as hydroxyl-containing alkylamino compound an acyclic alkyl compound having at least 3 carbon atoms and at least one hydroxyl and one amino group is used.
- 25 5. The process according to one of claims 1 to 4, wherein the alkylamino compound is a primary amine.
- 30 6. The process according to one of claims 1 to 5, wherein the hydroxyl-containing alkylamino compound is an acyclic alkyl compound having at least 3 carbon atoms which contains at least one hydroxyl group and at least one primary amino group.
- 35 7. The process according to one of claims 1 to 6, wherein the amount of the hydroxyl-containing amino compound is from 0.01 to 10% by weight, based on the total amount of the aqueous composite-particle dispersion.
- 40 8. The process according to one of claims 1 to 7, wherein the aqueous composite-particle dispersion has been prepared by a process in which at least one ethylenically unsaturated monomer is dispersely distributed in aqueous medium and is polymerized by the method of free-radical aqueous emulsion polymerization by means of at least one free-radical polymerization initiator in the presence of at least one dispersely distributed, finely divided inorganic solid and at least one dispersant, where

5 a) a stable aqueous dispersion of said at least one inorganic solid is used, said dispersion having the characteristic features that at an initial solids concentration of $\geq 1\%$ by weight, based on the aqueous dispersion of said at least one inorganic solid, it still contains in dispersed form one hour after its preparation more than 90% by weight of the originally dispersed solid and its dispersed solid particles have a weight-average diameter $\leq 100\text{ nm}$,

10 b) the dispersed particles of said at least one inorganic solid exhibit a nonzero electrophoretic mobility in an aqueous standard potassium chloride solution at a pH which corresponds to the pH of the aqueous dispersion medium before the beginning of dispersant addition,

15 c) at least one anionic, cationic and nonionic dispersant is added to the aqueous solid-particle dispersion before the beginning of the addition of said at least one ethylenically unsaturated monomer,

20 d) then from 0.01 to 30% by weight of the total amount of said at least one monomer are added to the aqueous solid-particle dispersion and polymerized to a conversion of at least 90%,
and

25 e) thereafter the remainder of said at least one monomer is added under polymerization conditions continuously at the rate at which it is consumed.

9. The process according to one of claims 1 to 8, wherein the finely divided inorganic solid is a silicon compound.

10. The process according to claim 9, wherein the finely divided inorganic solid is pyrogenic and/or colloidal silica and/or a phyllosilicate.

30 The process according to one of claims 1 to 10, wherein the hydroxyl-containing amino compound is a compound selected from the group consisting of 2-amino-2-methylethanol, 2-amino-2,2-dimethylethanol, 3-aminopropan-1-ol, 3-aminopropan-2-ol, 3-aminopropane-1,2-diol, 2-amino-2-methylpropane-1,3-diol, 4-aminobutan-1-ol, 2-aminobutan-1-ol, 2-amino-3-methylbutan-1-ol, 5-aminopentan-1-ol, 2-(2-aminoethoxy)ethanol, 6-aminohexan-1-ol and 7-aminoheptan-1-ol.

35 40 12. An aqueous composite-particle dispersion obtainable by a process according to one of claims 1 to 11.

40 13. An aqueous coating composition comprising an aqueous composite-particle dispersion according to claim 12.

14. The use of an aqueous composite-particle dispersion according to claim 12 for preparing aqueous coating compositions.
- 5 15. A process for improving the storage stability of an aqueous formulation comprising at least one aqueous composite-particle dispersion, wherein before, during or after the preparation of the aqueous formulation a hydroxyl-containing alkylamino compound is added to the aqueous formulation medium.